

# Mineral Industry Surveys

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## TUNGSTEN IN JULY 1999

U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder produced from hydrogen-reduced metal powder, was 22% lower during the first 7 months of 1999 than net production during the same period in 1998, according to the U.S. Geological Survey.

U.S. reported consumption of ferrotungsten, tungsten metal powder, tungsten carbide powder, tungsten scrap, and other tungsten materials during January through July of 1999 was 15% lower than that of the same period in 1998. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for July 1999 will be published in a subsequent issue.

### Note

All data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

### New publication

The 1998 Tungsten Annual Review is now available. To retrieve this report from MINES FaxBack, call (703) 648-4999 from the phone attached to your fax machine and request document number 680498.

### Update:

On August 2, the International Trade Administration, U.S. Department of Commerce, and U.S. International Trade Commission announced that they were each conducting a review of the antidumping duty order on tungsten ore concentrates from China. The reviews are to determine whether revoking the antidumping duty would be likely to lead to continuation or recurrence of dumping or material injury to the domestic industry. Further information on these reviews is available from the Federal Register issues cited below, which are available from the world wide web at URL [http://www.access.gpo.gov/su\\_docs/aces/aces140.html](http://www.access.gpo.gov/su_docs/aces/aces140.html) (International Trade Administration, 1999; U.S. International Trade Commission, 1999).

On August 27, the Defense National Stockpile Center (DNSC) issued an invitation for bids on intermediate tungsten products. Approximately 113 metric tons (250,000 pounds) of tungsten contained in tungsten carbide powder, and 68 tons (150,000 pounds) each of tungsten contained in ferrotungsten and tungsten metal powder were offered. The sale was to be on a negotiated bid basis. Initial offers were due to the DNSC by 10:00 a.m. on September 21. If all the material on offer is not sold as a result of the September bids, subsequent offers will be held monthly on the third Tuesday of the month, beginning October 19 (Defense National Stockpile Center, 1999a).

On September 15, the DNSC announced the results of its August 31 invitation for bids on tungsten ores and concentrates. The DNSC awarded approximately 590 tons (1.3 million pounds) of contained tungsten at a provisional price of approximately \$2.8 million to Osram Sylvania Inc. of Towanda, PA, and Comsup Commodities, Inc. of Fort Lee, NJ (Defense National Stockpile Center, 1999b). The total unit value of the awards equaled \$38 per metric ton unit (\$34 per short ton unit). The awards exhausted the supply of ores and concentrates available for sale during fiscal year 1999. DNSC planned to resume sales of tungsten ores and concentrates in fiscal year 2000, which begins October 1, 1999. For further information on DNSC's tungsten sales program, please contact David L. Brown, contracting officer, at (703) 767-5477.

Prices for tungsten ore in dollars per metric ton unit from Metal Bulletin are listed below. Prices in dollars per short ton unit were converted from metric ton unit prices and rounded to the nearest dollar. These prices represent combined prices for wolframite and scheelite ores with a minimum tungsten trioxide (WO<sub>3</sub>) content of 65%. The prices for August 1 to 31 are as follows:

Low—\$33/metric ton unit WO<sub>3</sub> (\$30/short ton unit WO<sub>3</sub>)

High—\$48/metric ton unit  $\text{WO}_3$  (\$44/short ton unit  $\text{WO}_3$ )

## References Cited

Defense National Stockpile Center, 1999a, DLA—Tungsten—Carbide powder, ferro and metal powder—002—Offering for sale: Fort Belvoir, VA, Defense National Stockpile Center, August 27, 37 p.

———1999b, Stockpile accepts tungsten ores & concentrates offer: Fort Belvoir, VA, Defense National Stockpile Center news release, September 15, 1 p.  
International Trade Administration, 1999, Initiation of five-year (“Sunset”) reviews: Federal Register, v. 64, no. 147, August 2, p. 41915-41916.  
U.S. International Trade Commission, 1999, Investigation no. 731-TA-497 (Review)—Tungsten ore concentrates from China: Federal Register, v. 64, no. 147, August 2, p. 41963-41965.

TABLE 1  
U.S. SALIENT TUNGSTEN STATISTICS 1/

(Metric tons, tungsten content)

Period	Concentrate			Reported scrap consumption	Intermediate products		
	Reported consumption	Imports for consumption	Stocks, end of period 2/		Net production 3/	Reported consumption 4/	Stocks, end of period 5/
1998:							
July	W	330	846	247	689	798	1,340
August	W	178	652	312	854	762	1,410
September	377	115	554	252	814	770	1,330
October	W	108	787	302	723	746	1,360
November	W	158	503	223	680	703	1,400
December	449	811	514	178	621	614	1,340
January-December 6/	3,210	4,750	XX	3,300	9,630	8,980	XX
1999:							
January	W	129	519	170	635	695	1,330
February	W	156	509	186	630	697 r/	1,340
March	W	714	490	172	694 r/	694 r/	1,390 r/
April	W	90	449	167 r/	665 r/	626 r/	1,330 r/
May	W	383	447	161 r/	669 r/	623 r/	1,360 r/
June	W	662	433	171	685 r/	613	1,300 r/
July	W	NA	481	163	657	654	1,300
Total	W	NA	XX	1,190	4,640	4,600	XX

r/ Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; not included in total or year-to-date. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Reported by consumers.

3/ Net production of tungsten metal powder, tungsten carbide powder, chemicals, and other products.

4/ Includes estimates and scrap.

5/ Reported by producers.

6/ Does not include withheld data.

TABLE 2  
U.S. PRODUCTION, CONSUMPTION, AND STOCKS OF  
AMMONIUM PARATUNGSTATE, BY MONTH 1/

(Metric tons, tungsten content)

Period	Production	Consumption	Stocks, end of period 2/
1998:			
July	W	657	496
August	W	846	501
September	W	751	531
October	W	796	552
November	W	414	586
December	W	718	603
January-December 3/	838	9210	XX
1999:			
January	486	795	621
February	W	729	566
March	486	800 r/	523 r/
April	W	706 r/	521 r/
May	499	723 r/	541 r/
June	W	683 r/	634 r/
July	W	811	542
Total 3/	1470	5250	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data; not included in total or year-to-date. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Producers and consumers.

3/ Does not include withheld data.

TABLE 3  
U.S. PRODUCTION AND STOCKS OF TUNGSTEN PRODUCTS 1/

(Metric tons, tungsten content)

Product	Net production 2/				Stocks at end of period		
	1999				1999		
	1998	June	July	Year to date	1998	June	July
Metal powder	4,600	309 r/	278	2,010	719	686 r/	684
Tungsten carbide powder (made from metal powder)	5,040	376 r/	379	2,630	576	568 r/	565
Cast and crystalline carbide powder; other	W	W	W	W	W	W	W
Chemicals	W	W	W	W	46	49 r/	52
Total 3/	9,630	685 r/	657	4,640	1,340	1,300 r/	1,300

r/ Revised. W Withheld to avoid disclosing company proprietary data; not included in total.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Gross production less quantity used to make other products in table.

3/ Does not include withheld data.

TABLE 4  
U.S. REPORTED CONSUMPTION OF TUNGSTEN, BY END USE IN 1999 1/ 2/ 3/

(Metric tons, tungsten content)

End use	June	July	Year to date
Steel:			
Tool	W	W	W
Other	14	15	97
Superalloys	34	32	218
Other alloys (excludes steels and superalloys) 4/	W	W	W
Cemented carbides 5/	415	452	3,220
Mill products made from metal powder	101	108	731
Chemical uses	W	W	W
Miscellaneous and unspecified	48	48	334
Total	613	654	4,600

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Does not include materials used in making primary tungsten products.

3/ Includes estimates.

4/ Includes welding and hard-facing rods and materials, wear- and corrosion-resistant alloys, and nonferrous alloys.

5/ Includes diamond bit matrices, cemented and sintered carbides, and cast carbide dies or parts.

TABLE 5  
U.S. REPORTED CONSUMPTION AND CONSUMER STOCKS OF TUNGSTEN MATERIALS 1/ 2/ 3/

(Metric tons, tungsten content)

Period	Ferro- tungsten	Tungsten metal powder	Tungsten carbide powder	Scheelite (natural, synthetic)	Tungsten scrap	Other tungsten materials 4/	Total
<b>Consumption:</b>							
1998:							
July	40	158	553	--	39	8	798
August	41	125	550	--	38	8	762
September	44	139	534	--	45	8	770
October	40	106	552	--	40	8	746
November	39	66	555	--	35	8	703
December	41	62	468	--	35	8	614
January-December	493	1,370	6,560	--	460	97	8,980
1999:							
January	43	108	500	--	34	10	695
February	43	111	502 r/	--	33	9	697 r/
March	45	113	498 r/	--	30	9	694 r/
April	43	116	432 r/	--	25 r/	9	626 r/
May	45	117 r/	422 r/	--	30 r/	9	623 r/
June	41	112	424	--	27	9	613
July	41	115	460	--	28	10	654
January-July	301	791	3,240	--	207	64	4,600
<b>Stocks:</b>							
1998:							
July	14	16	648	--	46	16	740
August	18	14	528	--	48	16	625
September	16	28	497	--	41	16	598
October	18	18	523	--	52	16	626
November	15	18	514	--	41	16	604
December	18	17	431	--	36	16	517
1999:							
January	29	25	416	--	28	17	514
February	25	22	403	--	32	16	498
March	27	26	419 r/	--	26	17	515
April	26	24	410 r/	--	20 r/	17	497 r/
May	27 r/	19 r/	406 r/	--	20 r/	18	490 r/
June	33	18	404	--	19	20	493
July	31	20	414	--	18	18	502

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Does not include materials used in making primary tungsten products.

3/ Includes estimates.

4/ Includes tungsten chemicals.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF TUNGSTEN, BY COUNTRY 1/

(Metric tons, tungsten content)

Period and country of origin	Ores and concentrates	Ammonium tungstates	Ferro-tungsten	Metal powder	Tungsten carbide powder	Other 2/	Total	Total year to date
1998	4,750	1,920	599	459	944	3,110	11,800	XX
1999:								
April	90	82	113	30	68	218	600	3,420
May	383	102	43	23	67	312	930	4,350
June:								
Australia	75	--	--	--	--	--	75	167
Austria	--	--	--	--	2	1	3	17
Belgium	--	--	--	(3/)	--	(3/)	(3/)	1
Bolivia	56	--	--	--	--	--	56	163
Canada	--	--	--	(3/)	40	--	40	236
China	--	143	42	39	10	273	508	2,770
Czech Republic	--	--	--	--	--	--	--	(3/)
Estonia	--	--	--	--	--	--	--	(3/)
France	--	--	--	--	--	--	--	1
Germany	--	1	--	4	5	9	19	125
Hong Kong	--	--	--	--	--	(3/)	(3/)	1
Hungary	--	--	--	--	--	1	1	6
India	--	--	--	--	--	(3/)	(3/)	(3/)
Ireland	--	--	--	--	--	--	--	(3/)
Israel	--	--	--	--	20	3	23	54
Japan	--	--	--	2	--	3	4	21
Kazakhstan	14	--	--	--	--	--	14	461
Korea, Republic of	--	--	--	--	--	--	--	(3/)
Luxembourg	--	--	--	--	10	--	10	26
Mexico	--	--	--	--	--	(3/)	(3/)	14
Mongolia	--	--	--	--	--	--	--	23
Netherlands	--	--	--	--	--	(3/)	(3/)	(3/)
Peru	--	--	--	--	--	--	--	11
Portugal	33	--	--	--	--	--	33	185
Russia	485	--	14	3	--	100	601	1,320
Rwanda	--	--	--	--	--	--	--	14
Singapore	--	--	--	--	--	(3/)	(3/)	(3/)
South Africa	--	--	--	--	--	--	--	(3/)
Spain	--	--	--	--	--	--	--	(3/)
Sweden	--	--	--	--	--	--	--	(3/)
Switzerland	--	--	--	--	--	2	2	2
Thailand	--	--	--	--	--	--	--	11
United Kingdom	--	--	--	--	--	(3/)	(3/)	114
Total	662	144	56	48	87	392	1,390	5,740
Total, year to date	2,130	1,100	384	163	403	1,560	5,740	XX

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other unwrought tungsten, wrought tungsten, calcium and other tungstates, tungsten oxides, tungsten chlorides, other tungsten compounds, ash and residues containing mainly tungsten, and other mixtures of inorganic compounds containing tungsten. Tungsten content estimated in part.

3/ Less than 1/2 unit.

Note: Imports of waste and scrap in June 1999 totaled 97 metric tons, tungsten content.

Source: Bureau of the Census.

TABLE 7  
U.S. EXPORTS OF TUNGSTEN, BY COUNTRY 1/

(Metric tons, tungsten content)

Period and country of destination	Ores and concen- trates 2/	Ammonium tungstates	Metal powder 2/	Tungsten carbide powder	Other 3/	Total	Total year to date
1998	10	287	851	1,240	467	2,860	XX
1999:							
April	1	35	70	88	49	243	736
May	(4/)	(4/)	103	93	22	219	954
June:							
Afghanistan	--	--	--	--	--	--	(4/)
Argentina	--	--	--	1	(4/)	1	1
Australia	--	--	--	--	(4/)	(4/)	9
Austria	--	--	--	--	--	--	2
Belgium	--	--	--	2	(4/)	3	92
Bolivia	--	--	--	--	--	--	1
Brazil	--	--	2	(4/)	1	3	14
Canada	--	--	4	10	3	17	121
Chile	--	--	(4/)	--	--	(4/)	3
China	--	--	--	--	(4/)	(4/)	2
Colombia	--	--	--	--	--	--	(4/)
Congo (Kinshasa)	--	--	--	--	--	--	8
Costa Rica	--	--	--	--	--	--	(4/)
Czech Republic	--	--	--	--	--	--	5
Finland	--	--	--	--	--	--	1
France	--	--	8	(4/)	1	9	29
Germany	--	--	3	3	27	33	313
Hong Kong	--	--	--	--	1	1	27
Hungary	--	--	--	--	1	1	5
India	--	--	--	1	1	2	27
Indonesia	--	--	--	--	(4/)	(4/)	(4/)
Ireland	(4/)	--	--	--	(4/)	(4/)	6
Israel	--	--	--	--	1	1	44
Italy	--	--	1	5	1	6	55
Japan	--	--	(4/)	1	1	2	36
Korea, Republic of	--	--	--	1	--	1	12
Luxembourg	--	--	--	--	--	--	(4/)
Macao	--	--	--	--	--	--	(4/)
Malaysia	--	--	--	(4/)	(4/)	(4/)	1
Mexico	--	--	17	--	1	18	32
Monaco	--	--	--	--	--	--	(4/)
Netherlands	--	--	--	--	(4/)	(4/)	53
Netherlands Antilles	--	--	--	--	--	--	(4/)
Norway	--	--	--	--	--	--	(4/)
Philippines	--	--	--	--	--	--	(4/)
Poland	--	--	--	--	--	--	2
Saudi Arabia	--	--	--	--	--	--	(4/)
Singapore	(4/)	--	--	(4/)	(4/)	1	4
South Africa	--	--	(4/)	--	--	(4/)	19
Spain	--	--	(4/)	--	1	1	5
Sweden	--	--	--	(4/)	(4/)	(4/)	70
Switzerland	--	--	2	--	(4/)	2	16
Taiwan	--	--	3	--	1	3	9
Thailand	--	--	--	--	(4/)	(4/)	(4/)
Turkey	--	--	--	--	--	--	1
United Arab Emirates	--	--	(4/)	--	--	(4/)	(4/)
United Kingdom	2	--	(4/)	(4/)	1	3	37
Venezuela	--	--	--	--	--	--	2
Total	2	--	40	23	43	108	1,060
Total, year to date	5	51	390	374	242	1,060	XX

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Tungsten content estimated from reported gross weight.

3/ Includes wrought tungsten, ferrotungsten, and other tungstates. Tungsten content estimated in part.

4/ Less than 1/2 unit.

Note: Estimated exports of waste and scrap in June 1999 totaled 66 metric tons, tungsten content.

Source: Bureau of the Census.